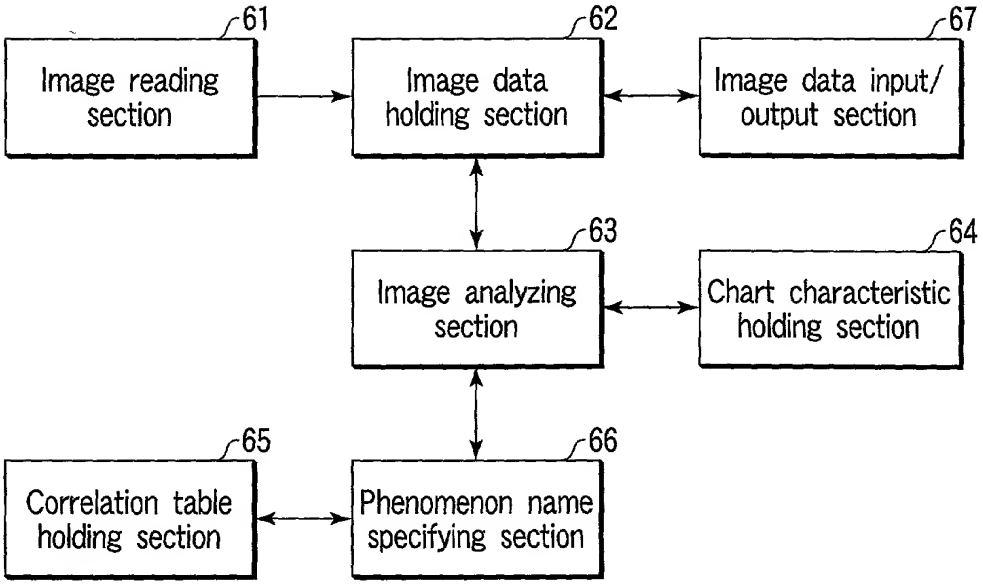

61
Image reading section
62
Image data holding section
67
Image data input/ output section
63
Image analyzing section
64
Chart characteristic holding section
65
Correlation table holding section
66
Phenomenon name specifying section

FIG. 1

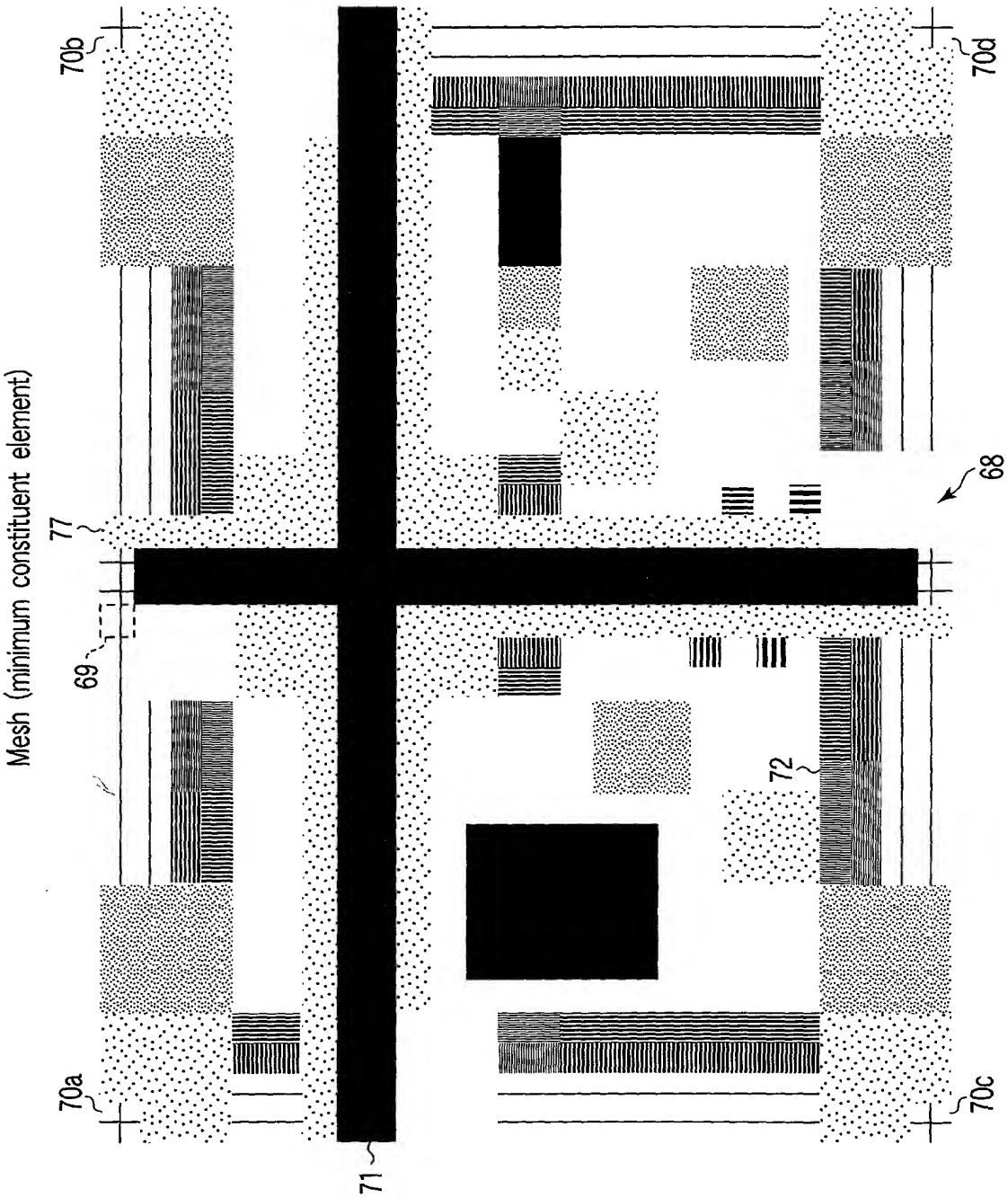

70b
70d
68
77
69
Mesh (minimum constituent element)
72
70a
70c
71

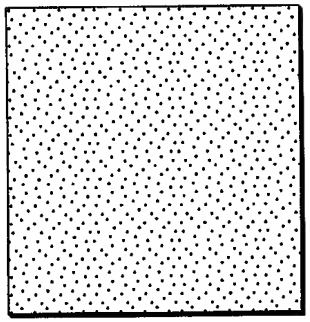
FIG. 2

T0822T "26259660

73

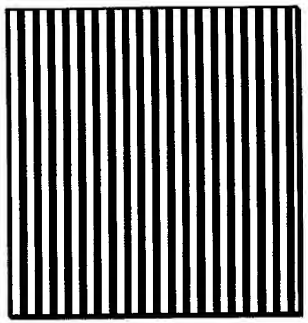
Chart ID	Chart type	Number of meshes		Mesh size		Resolution		Configuration pattern					
		Main scanning	Sub-scanning	Main scanning	Sub-scanning	Main scanning	Sub-scanning	(0,0)	(0,1)	(0,2)	(0,3)	(0,4)	...
001	001	70	100	50	50	300	300	64	1	1	1	2	
004	001	70	100	50	50	300	300	0	0	0	0	0	

FIG. 3



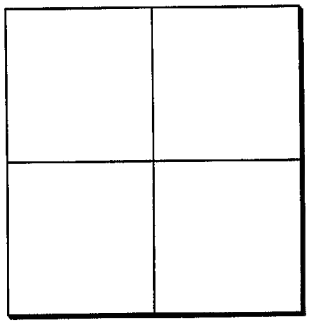
No.1

FIG. 4A



No.2

FIG. 4B



No.3

FIG. 4C

Title: IMAGE CHECKING SYSTEM
Inventor(s): Yoshikatsu KAMISUWA
Serial No. 09/955,292

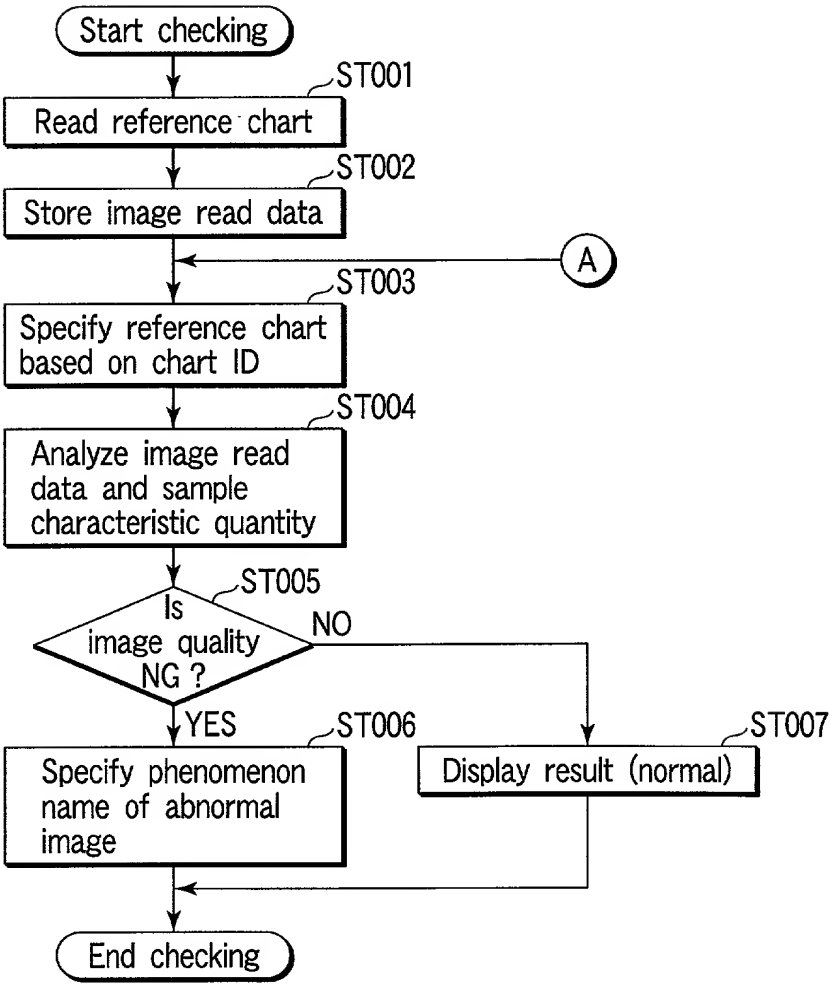

Start checking
ST001
Read reference chart
ST002
Store image read data
A
ST003
Specify reference chart based on chart ID
ST004
Analyze image read data and sample characteristic quantity
ST005
Is image quality NG ?
NO
YES
ST006
Specify phenomenon name of abnormal image
ST007
Display result (normal)
End checking

FIG. 5A

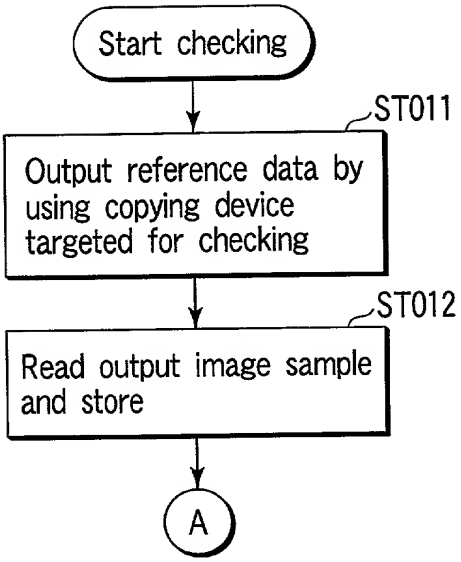


FIG. 5B

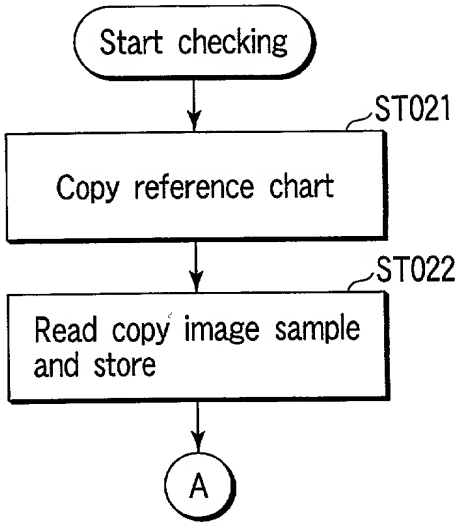


FIG. 5C

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Coordinate	Characteristic quantities							
	Displacement	Skew	Distortion	Brightening	Darkening	Sub-scanning	Small region	...
0 , 1	0	0	0	-	-	-	-	...
0 , 2	-	-	-	0	0	-	-	...
0 , 3	-	-	-	0	0	-	-	...
0 , 4	-	-	-	1	0	-	-	...
0 , 5	-	-	-	1	0	-	-	...
0 , 6	-	-	-	0	0	-	-	...
.....	.....	.....	.....	.....	.....	.....	.....	.....

FIG. 6

75

Phenomenon name	Image characteristic quantities			
Sub-scanning bright stripe copy	Brightening	Sub-scanning	Stripe	
Fog	Darkening	Full	Small region	
...	...			

FIG. 7

76

Image characteristic quantities			Chart ID	Chart name
Brightening	Sub-scanning		003	Uniform pattern of density 196
Darkening	Small region		004	Plain paper chart
...				

FIG. 8

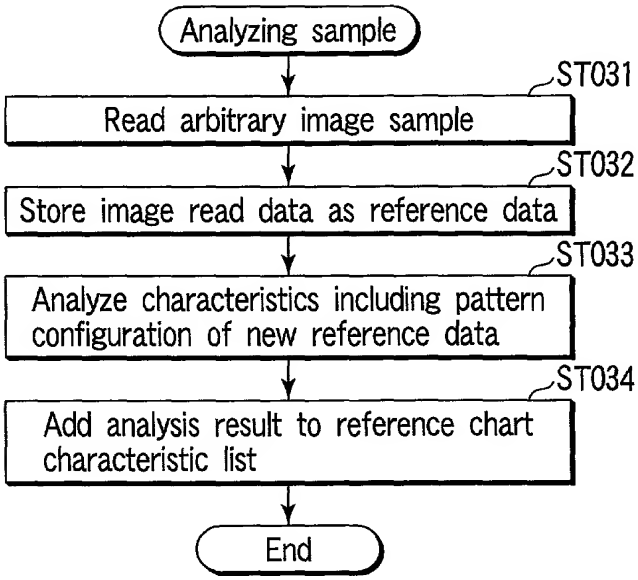

FIG. 9

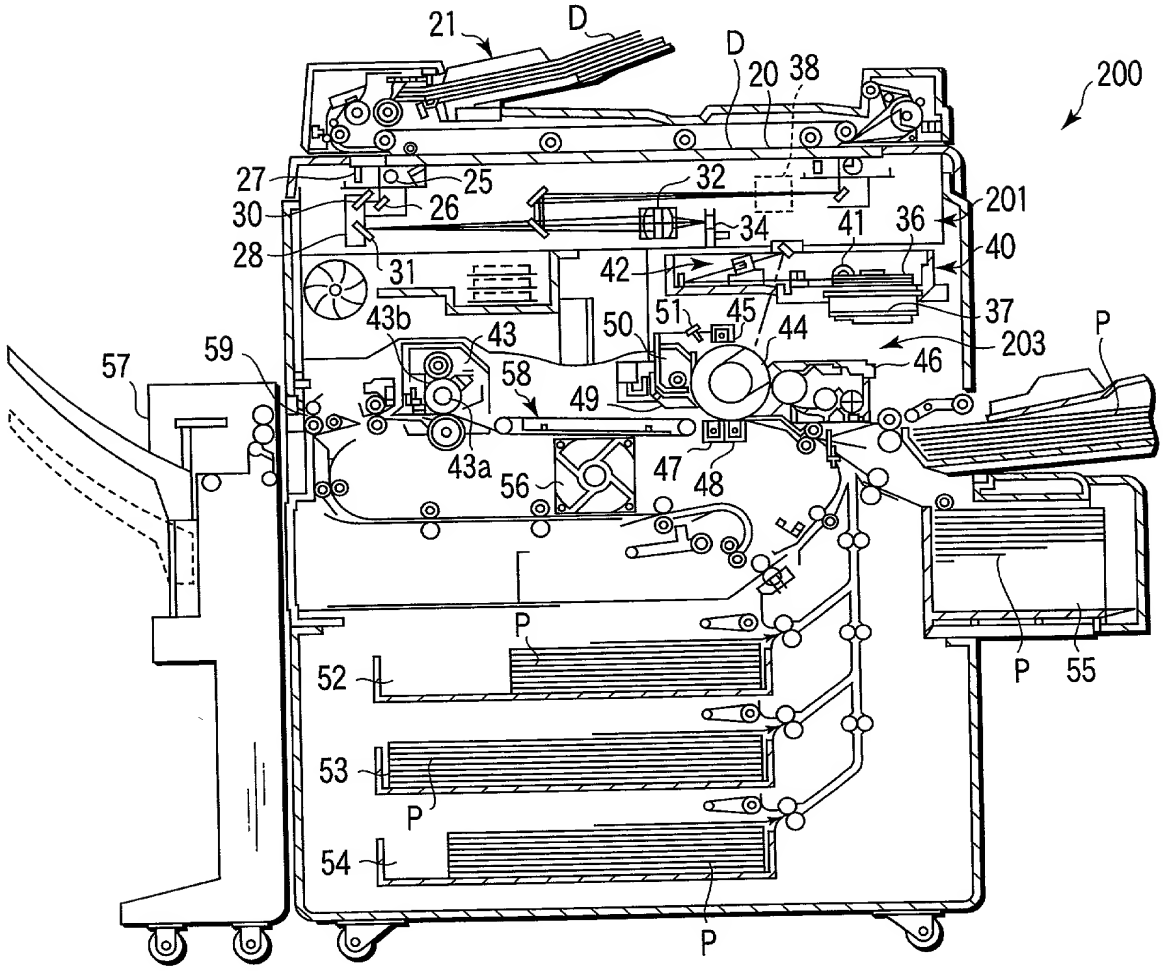
21
D
D
20
38
200
27
25
32
30
26
34
41
36
201
28
31
42
40
43b
43
50
51
45
44
37
203
P
57
59
58
49
46
43a
56
47
48
P
52
P
P
55
53
P
54
P

FIG. 10

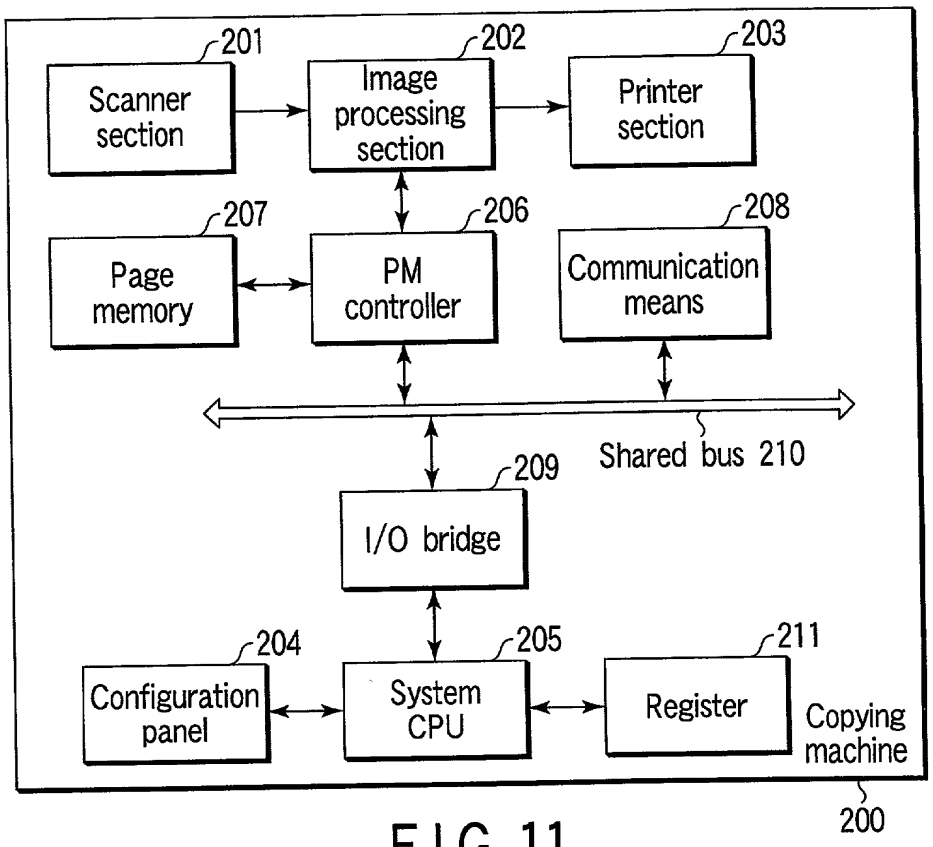
201
Scanner section
202
Image processing section
203
Printer section
207
Page memory
206
PM controller
208
Communication means
Shared bus 210
209
I/O bridge
204
Configuration panel
205
System CPU
211
Register
Copying machine
200

FIG. 11

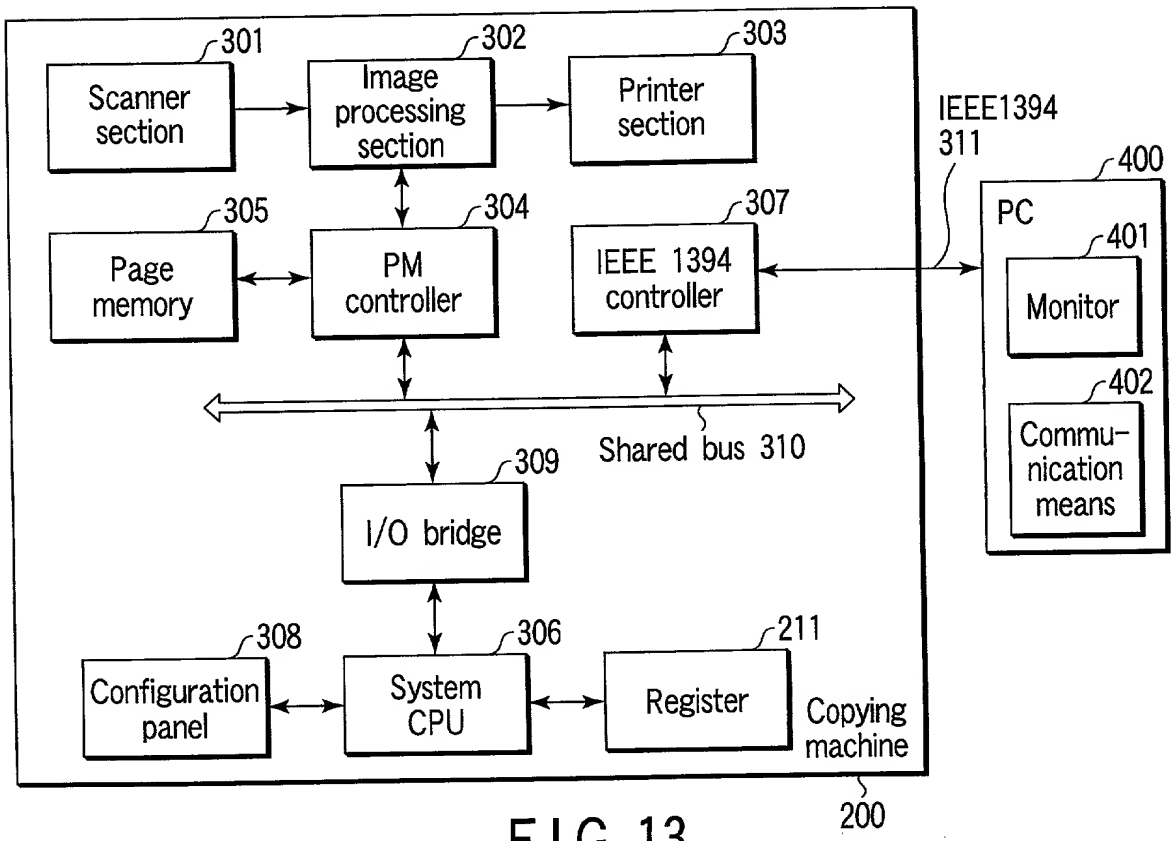
301
Scanner section
302
Image processing section
303
Printer section
IEEE1394
311
400
PC
401
Monitor
402
Commu-nication means
305
Page memory
304
PM controller
307
IEEE 1394 controller
Shared bus 310
309
I/O bridge
308
Configuration panel
306
System CPU
211
Register
Copying machine
200

FIG. 13

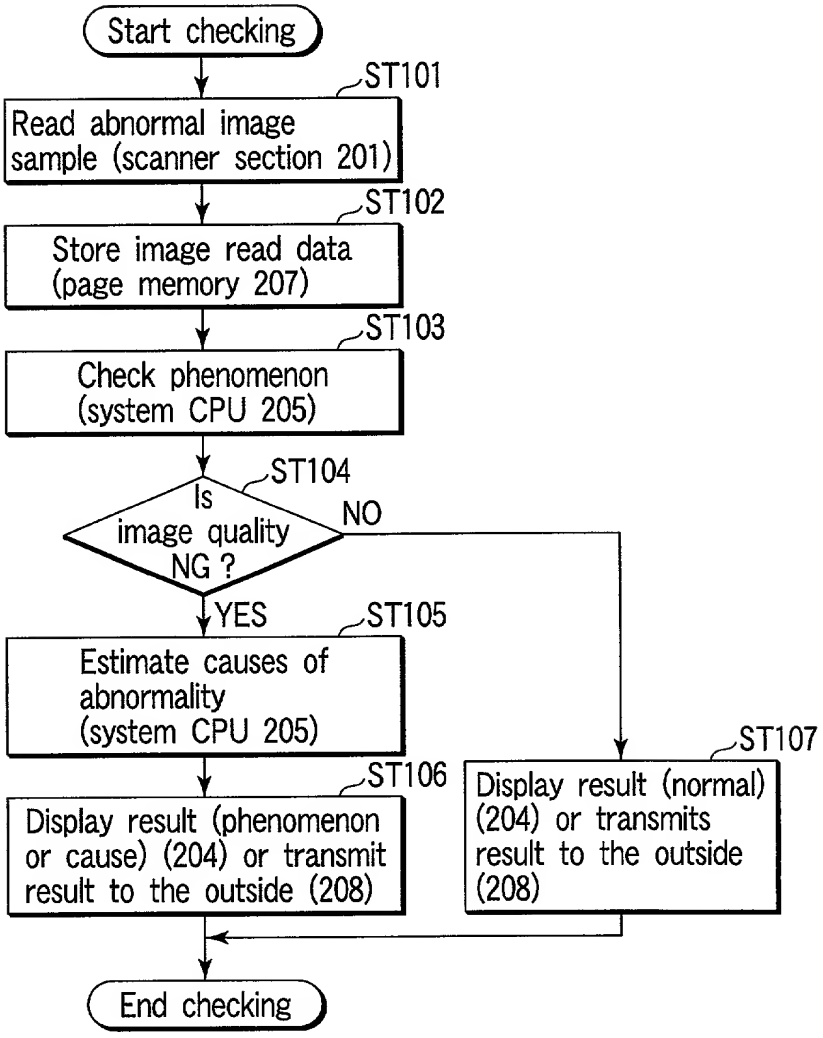
Start checking
ST101
Read abnormal image sample (scanner section 201)
ST102
Store image read data (page memory 207)
ST103
Check phenomenon (system CPU 205)
ST104
Is image quality NG ?
NO
YES
ST105
Estimate causes of abnormality (system CPU 205)
ST106
Display result (phenomenon or cause) (204) or transmit result to the outside (208)
ST107
Display result (normal) (204) or transmits result to the outside (208)
End checking

FIG. 12

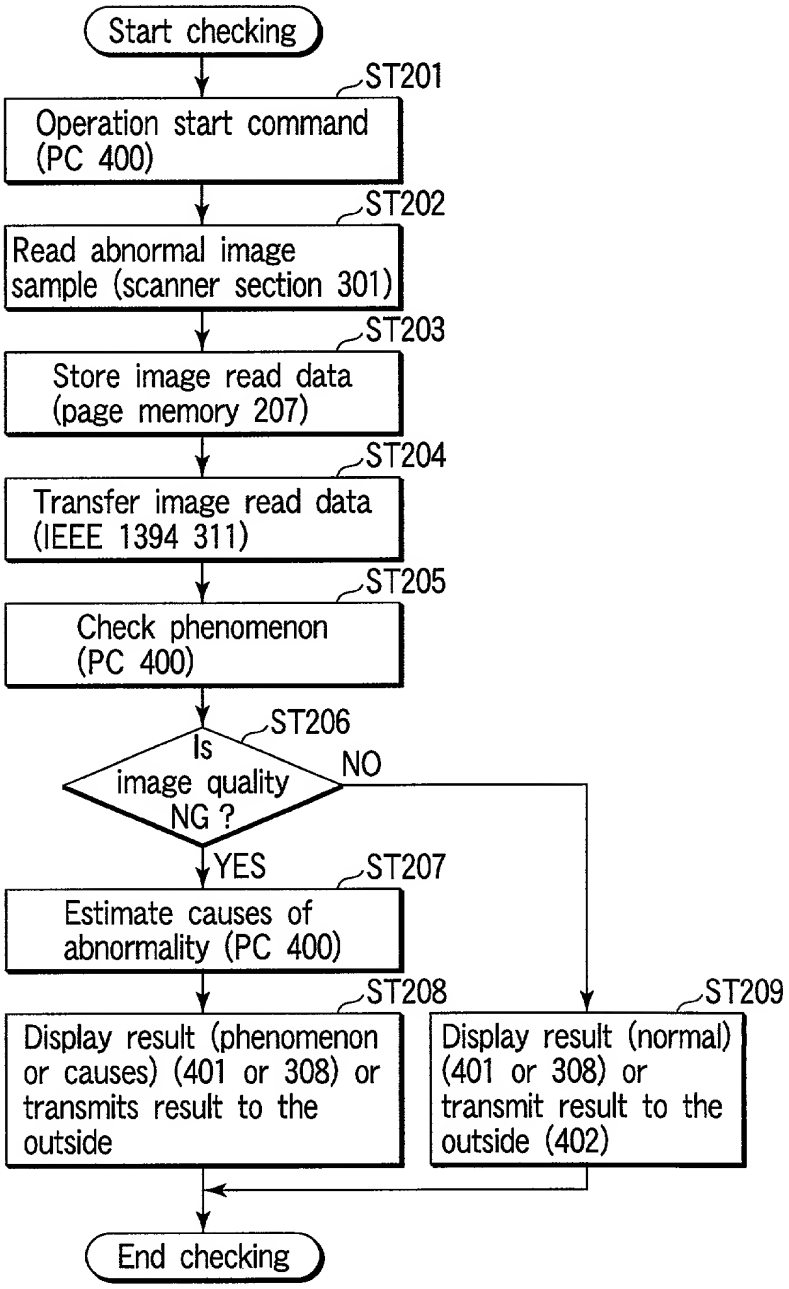
Start checking
ST201
Operation start command (PC 400)
ST202
Read abnormal image sample (scanner section 301)
ST203
Store image read data (page memory 207)
ST204
Transfer image read data (IEEE 1394 311)
ST205
Check phenomenon (PC 400)
ST206
Is image quality NG ?
NO
YES
ST207
Estimate causes of abnormality (PC 400)
ST208
Display result (phenomenon or causes) (401 or 308) or transmits result to the outside
ST209
Display result (normal) (401 or 308) or transmit result to the outside (402)
End checking

FIG. 14

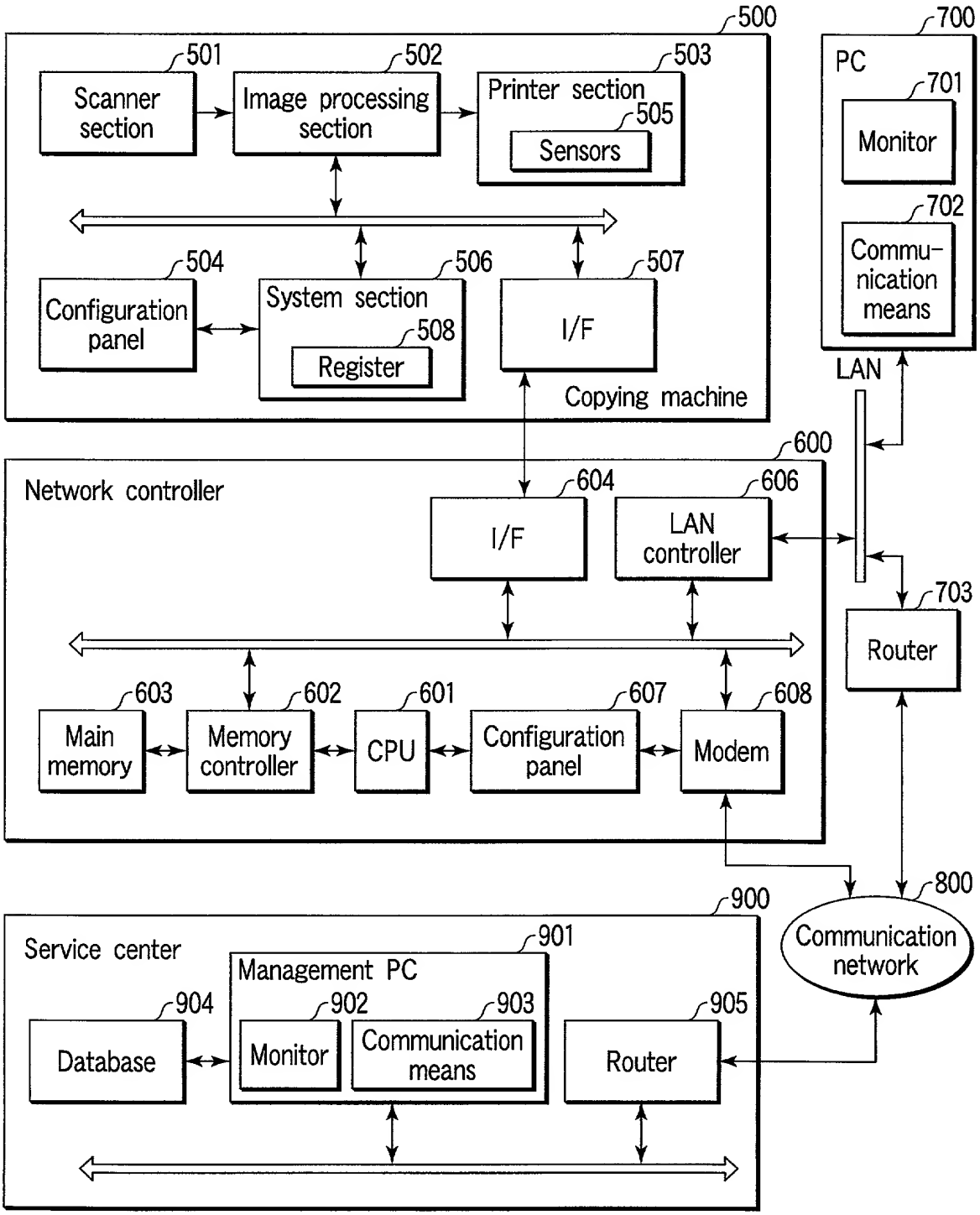
500
501
Scanner section
502
Image processing section
503
Printer section
505
Sensors
504
Configuration panel
506
System section
508
Register
507
I/F
Copying machine
700
PC
701
Monitor
702
Commu-nication means
LAN
600
Network controller
604
I/F
606
LAN controller
703
Router
603
Main memory
602
Memory controller
601
CPU
607
Configuration panel
608
Modem
900
Service center
901
Management PC
904
Database
902
Monitor
903
Communication means
905
Router
800
Communication network

FIG. 15

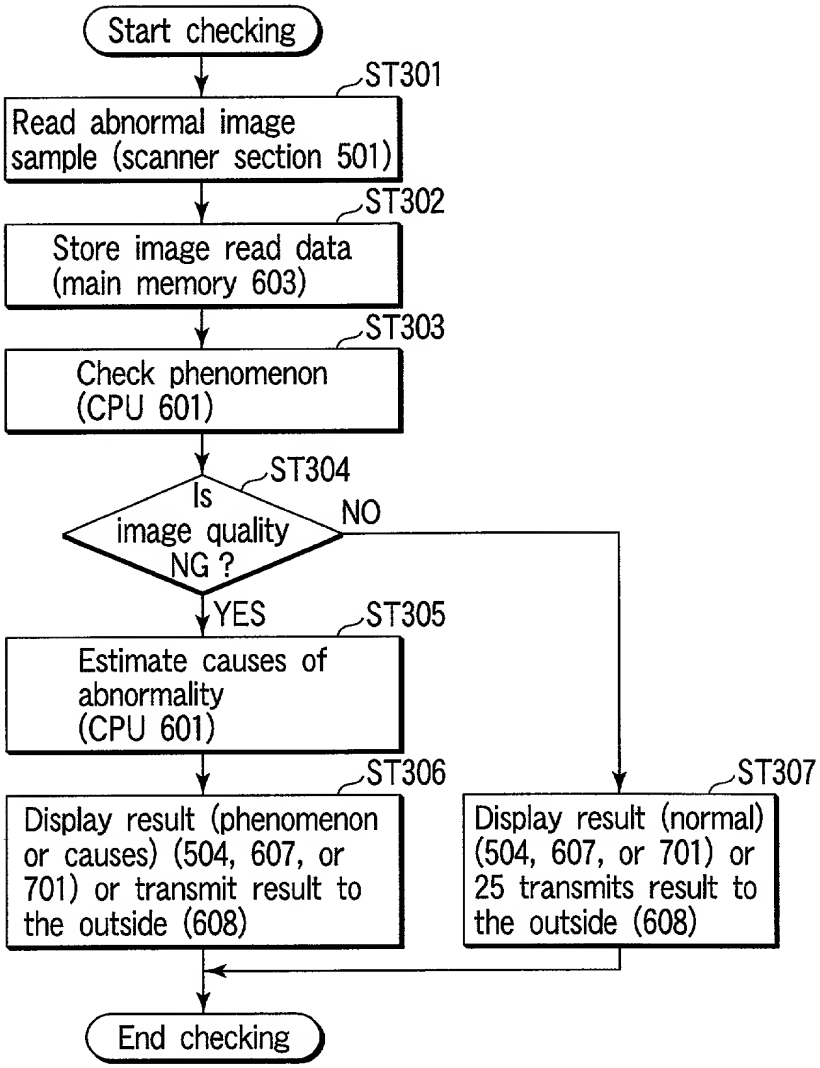
Start checking
ST301
Read abnormal image sample (scanner section 501)
ST302
Store image read data (main memory 603)
ST303
Check phenomenon (CPU 601)
ST304
Is image quality NG ?
NO
YES
ST305
Estimate causes of abnormality (CPU 601)
ST306
Display result (phenomenon or causes) (504, 607, or 701) or transmit result to the outside (608)
ST307
Display result (normal) (504, 607, or 701) or 25 transmits result to the outside (608)
End checking

FIG. 16

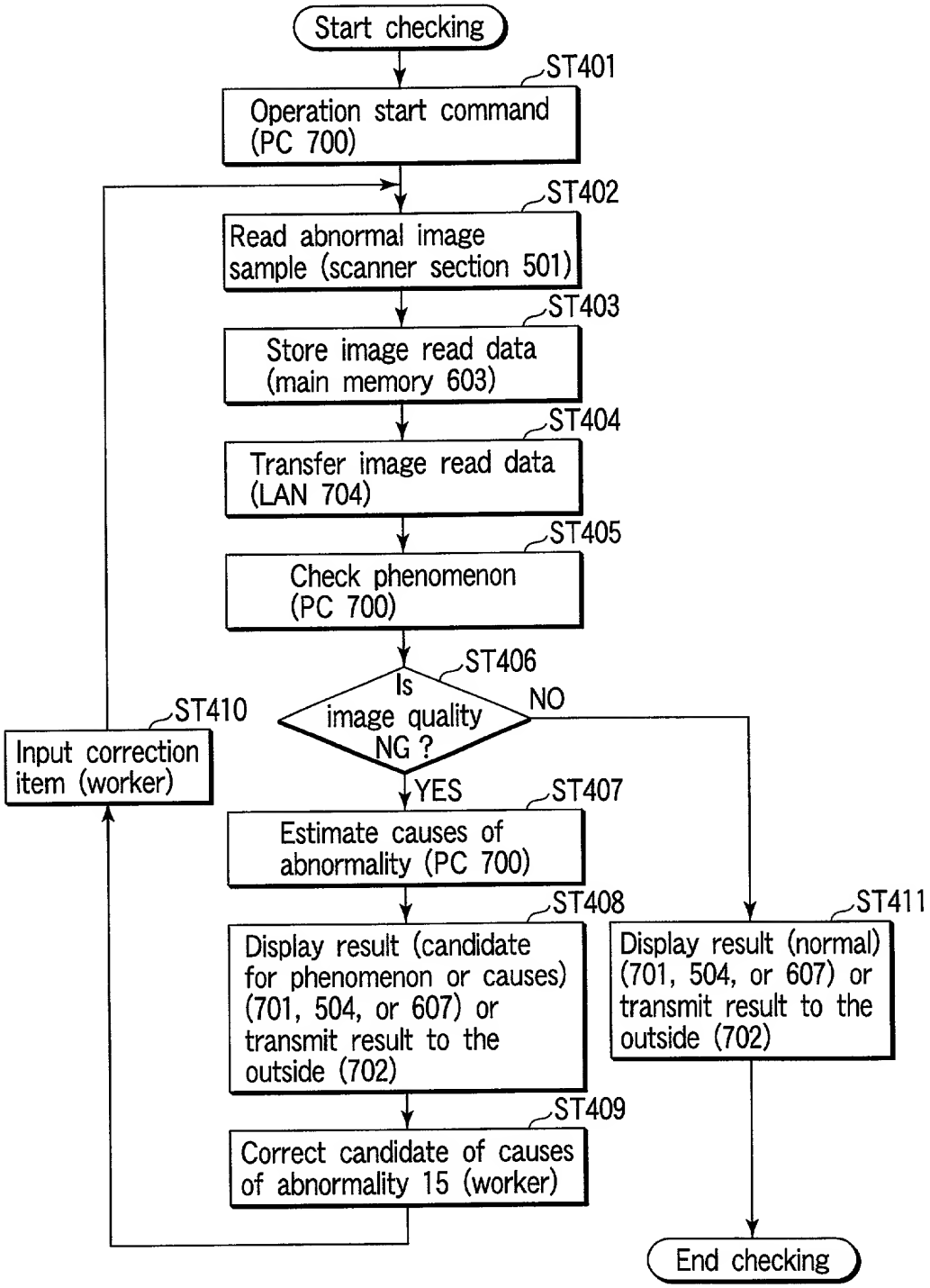
Start checking
ST401
Operation start command (PC 700)
ST402
Read abnormal image sample (scanner section 501)
ST403
Store image read data (main memory 603)
ST404
Transfer image read data (LAN 704)
ST405
Check phenomenon (PC 700)
ST406
Is image quality NG ?
NO
YES
ST410
Input correction item (worker)
ST407
Estimate causes of abnormality (PC 700)
ST408
Display result (candidate for phenomenon or causes) (701, 504, or 607) or transmit result to the outside (702)
ST409
Correct candidate of causes of abnormality 15 (worker)
ST411
Display result (normal) (701, 504, or 607) or transmit result to the outside (702)
End checking

FIG. 17

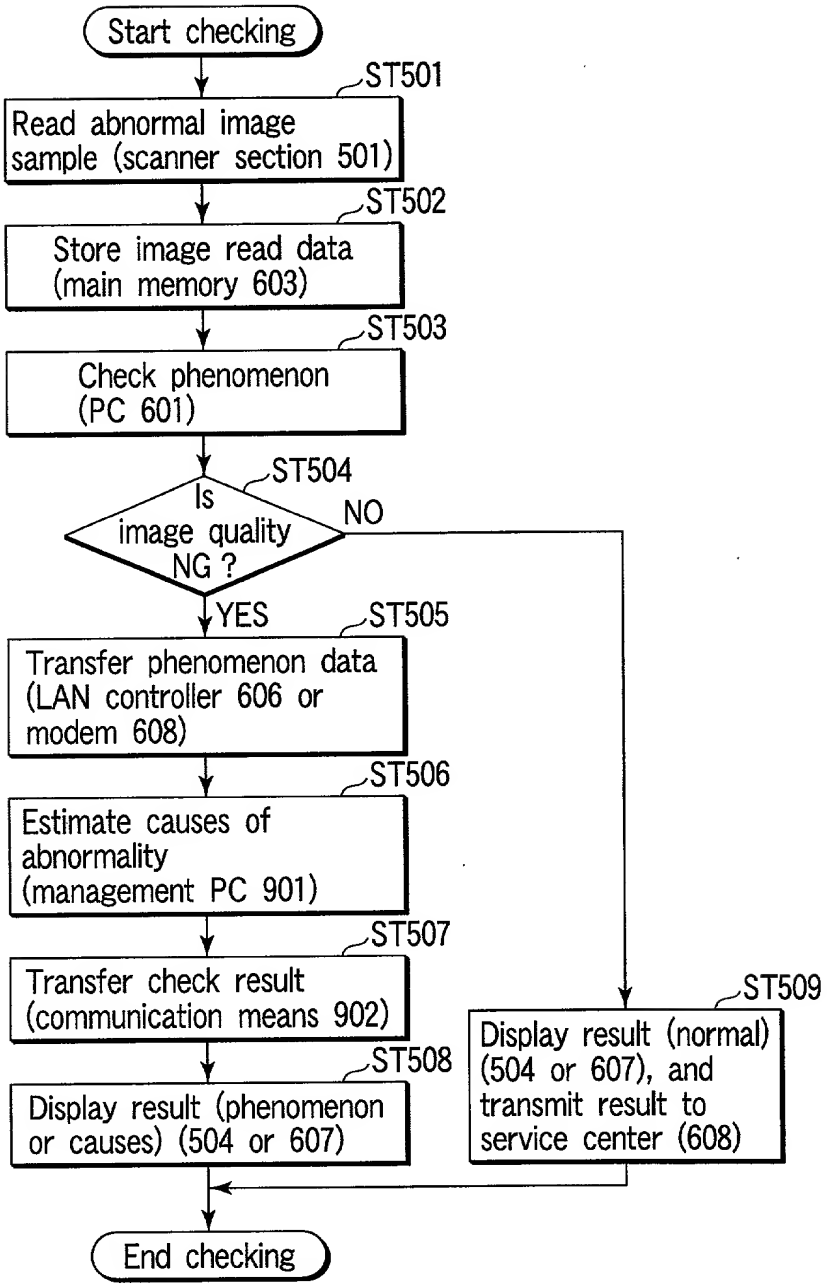
Start checking
ST501
Read abnormal image sample (scanner section 501)
ST502
Store image read data (main memory 603)
ST503
Check phenomenon (PC 601)
ST504
Is image quality NG ?
NO
YES
ST505
Transfer phenomenon data (LAN controller 606 or modem 608)
ST506
Estimate causes of abnormality (management PC 901)
ST507
Transfer check result (communication means 902)
ST508
Display result (phenomenon or causes) (504 or 607)
ST509
Display result (normal) (504 or 607), and transmit result to service center (608)
End checking

FIG. 18